

Montana Board of Oil and Gas Conservation

Environmental Assessment

Proposed Action: Approve Drilling Permit (Form 22)

Operator: Statoil & Gas LP

Well Name/Number: Storvik 7-6 #2H

Location: SE SE Section 7 T26N R59E

County: Richland, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 20,410' MD/10,249' TVD.

Possible H2S gas production: Yes, slight H2S possible from Mississippian Formations.

In/near Class I air quality area: No Class I air quality area nearby.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☒ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: If there are existing pipelines for natural gas in the area then associated gas must be tied into system or if no gathering system nearby associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: Yes will drill with oil based invert drilling fluids for the intermediate casing hole.

Horizontal hole will be drilled with saltwater. Surface casing hole will be drilled with freshwater and freshwater mud system, Rule 36.22.1001.

High water table: No high water table anticipated at this surface location.

Surface drainage leads to live water: No, closest drainages are unnamed ephemeral tributary drainages to the Missouri River 1/10 of a mile to the south from this drilling location. The Missouri River is about 1.5 miles to the east from this location.

Water well contamination: None, surface hole will be drilled with freshwater and freshwater drilling fluids to 2,300', steel surface casing will be run and cemented to surface from 2,300' to protect any ground and surface waters. Closest water wells from this location are about 1/4 of a mile to 3/4 of a mile away from this location. All other wells are 1 mile or further from this location. Depth of these domestic and stock water wells are from 53' and 234'. This proposed oil well will be drilled with freshwater and freshwater mud to 1,665' and steel surface casing will be run and cemented to surface to protect groundwater.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: Closest Class I stream drainage is the Missouri River, about 1.5 miles to the east from this location.

Mitigation:

☐ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☒ Off-site disposal of solids/liquids (in approved facility)

___ Other: _____

Comments: 1,900' surface casing will be drilled with freshwater, steel casing will be run to 1,900' and cemented back to surface, to protect freshwater zones in adjacent water wells, Rule 36.22.1001. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems, (5,000 psig annular and double ram), Rule 36.22.1014.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: No stream crossings anticipated. Crossing only ephemeral drainages over existing county roads.

High erosion potential: Possible high erosion potential on moderate cut and fill slopes, expansion of existing location contains a small cut of up to 6.' and a small fill of up to 2', required.

Loss of soil productivity: No, location to be restored after drilling, if nonproductive. If productive unused portion of this drillsite will be reclaimed.

Unusually large wellsite: Yes, a large well site 509'X333' for two wells, Storvik 7-6 #2H and the Storvik 7-6 #1H.

Damage to improvements: Slight surface use appears to be mix of cultivated and grass lands.

Conflict with existing land use/values: Slight

Mitigation

___ Avoid improvements (topographic tolerance)

___ Exception location requested

X Stockpile topsoil

___ Stream Crossing Permit (other agency review)

X Reclaim unused part of wellsite if productive

___ Special construction methods to enhance reclamation

X Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road, #147. Oil based invert drilling fluids will be recycled. Completion fluids will hauled to a commercial Class II disposal. Cuttings and solids will be transported off site for disposal.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 5/8 of a mile to the northeast and about 7/8 of a mile to the east southeast from this location. Nohly cemetery is about 5/8 of a mile to the east from this location.

Possibility of H2S: Yes, slight from Mississippian Formations.

Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:

X Proper BOP equipment

___ Topographic sound barriers

___ H2S contingency and/or evacuation plan

___ Special equipment/procedures requirements

___ Other: _____

Comments: Adequate surface casing cemented to surface, Rule 36.22.1001, with working BOP stack should mitigate any problems, (5,000 psig annular and double ram), Rule 36.22.1014.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Least Tern, Whooping Crane and Piping Plover. Candidate species is the Sprague's Pipit and Greater Sage-Grouse. NH tracker website indicates the following thirteen (13) species of concern are as follows: Great Blue Heron, Piping Plover, Whooping Crane, Least Tern, Northern Redbelly Dace, Blue Sucker, Iowa Darter, Shortnose Gar, Sturgeon Chub, Sicklefin Chub, Paddlefish, Sauger, Pallid Sturgeon. NH tracker website lists six (6) potential species of concern: Hayden's Shrew, Black-and-white Warbler, Brook Stickleback, Brassy Minnow, Burbot, Creek Chub.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☒ Other agency review (DFWP, **federal agencies**, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: _____

Comments: Private surface land. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☒ other agency review (SHPO, DSL, **federal agencies**)

☐ Other: _____

Comments: Private surface land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: Wildcat well. No concerns

Remarks or Special Concerns for this site

A wildcat exploratory single lateral horizontal Bakken Formation test, 20,410'MD/10,249'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, some short term impacts will occur, but can be mitigated.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ John Gizicki
(title:) Compliance Specialist
Date: March 26, 2014

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Richland County water wells
(subject discussed)
March 26, 2014
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Richland County, Montana
(subject discussed)

March 26, 2014 (date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3, S4 Location T26N R58E
(subject discussed)

March 26, 2014
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____